DIRECT INVESTIGATION

REPORT ON
SYSTEM FOR DEVELOPMENT OF
QUESTION PAPERS IN PUBLIC EXAMINATIONS

May 2009

Office of The Ombudsman

Hong Kong

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EXECUTIVE SUMMARY

Direct Investigation
System for Development of Question Papers in Public Examinations

Introduction

The Hong Kong Examinations and Assessment Authority ("HKEAA") conducts various public examinations, including the Hong Kong Certificate of Education Examination ("HKCEE") and the Hong Kong Advanced Level Examination ("HKALE").

2. In 2008, we received numerous complaints about errors in some papers for HKCEE and HKALE. The Ombudsman, therefore, initiated this direct investigation into HKEAA's mechanism for developing question papers.

Organisation of HKEAA

3. HKEAA is governed by a Council, with the Secretariat running the day-to-day operations. Full-time Managers-Assessment Development ("M-ADs") are responsible for ensuring that question papers are free of errors and ambiguities. Part-time service providers, mainly experienced teachers, perform the following roles:

Chief Examiner	to be in charge of the production of a question paper, with focus on its orientation, coverage and standard.
Moderator	to assist the Chief Examiner in checking and moderating the question paper, particularly its orientation, coverage and standard.
Setter	to prepare the draft question paper.
Assessor	to work through the question paper to ensure that the questions are workable and free of errors.
Proofreader	to proofread the question paper.
Assistant Examiner	to assist and support the Chief Examiner during the marking process.
Marker	to assess candidates' answers and assign marks to them.

Procedures and Practices

Development of Question Papers

4. Question papers are developed in two stages:

(a) **Stage One** (setting and moderation of questions)

to ensure that the questions meet the objectives of the syllabus, particularly in focus, coverage and level of difficulty.

(b) **Stage Two** (checking and proofreading)

to ensure appropriateness of the questions and instructions, particularly in accuracy and clarity; and comprises language polishing, working through the questions and nine rounds of proofreading.

5. To prevent conflict of roles, HKEAA has laid down the following guidelines:

- Setters should not be Moderators.
- Assessors should not be members of the Moderation Committee.
- Proofreaders should preferably be drawn from outside the Moderation Committee.

Development of Marking Schemes

6. Developing a marking scheme comprises three steps:

(a) A **draft marking scheme** is prepared in conjunction with the draft question paper.

(b) After the examination, the Chief Examiners mark some **sample scripts** and then agree on marking principles and standards, revising the draft marking scheme where appropriate.

(c) The **revised marking scheme** is distributed to all Markers at a Markers' Meeting, and may be **further revised** on the basis of discussions.

Review of Examinations

7. Every year after HKCEE and HKALE, Subject Committees review the examination papers, the marking process and candidates' performance. An Examination Report and Question Papers ("ERQP") for each subject covering the question paper, the marking scheme and the Chief Examiner's comments on candidates' performance in general is published.

Handling of Complaints

8. Section A2 of HKEAA's complaints handling guidelines provides that **all** examination-related complaints are dealt with by the Standing Committee ("SC"), an internal meeting chaired by the Secretary General or his Deputy, while section B6 mentions the handling of **non-SC** cases, implying that there are complaints not dealt with by SC, in contradiction to section A2.

9. Handling of such non-SC cases is based on "workplace agreement", i.e. an informal understanding among officers.

Case Studies

10. We have examined three 2008 HKCEE and HKALE question papers found to have significant errors, for an understanding of the process of paper development. Details of the cases are in **Chapter 4** of the report.

Our Observations

11. Under the leadership of the Chairman, HKEAA has commendably devoted considerable efforts to instilling in staff a culture of receptiveness, transparency and continuous improvement. However, the cases studied signify the existence still of serious deficiencies in some processes and the need for improvement.

12. **Key Responsibilities Not Clearly Defined.** The errors in the question papers had all resulted from amendments made by the respective M-ADs, which went unnoticed in subsequent checking and proofreading. The key role of the M-AD in ensuring that the question paper is free of error and ambiguity is not clearly stated in any of the manuals, guidelines and record forms put to us. From our interviews with the examination personnel, we note that not all of them are clear about this important responsibility of the M-AD.

13. **Conflicting Roles of Key Personnel.** HKEAA has guidelines on avoidance of conflicting roles of the personnel involved in question development. However, in one of the cases studied, the M-AD responsible for moderating and proofreading the question paper was allowed to set the question as well. While this might not be against the letter of HKEAA's guidelines, it was most certainly against their spirit and intent.

14. **Ineffective Proofreading Process.** HKEAA has elaborate procedures and guidelines for checking and proofreading. However, as shown in the cases studied, even such an elaborate process had time and again failed to identify quite obvious errors.

15. We question the need for so many rounds of proofreading. This multiple process might lull the proofreaders into a false sense of security and even encourage reliance on the proofreader next in line.

16. Moreover, HKEAA guidelines and checklists contain much on minutiae, e.g. whether the correct page numbers have been inserted and whether the layout fits the A4/A5 frame, but relatively little on principles, e.g. whether the draft instructions are clear and whether the draft questions are at the right level.

17. For more efficient and effective staff deployment, proofreading should be kept to the minimum necessary. Moreover, different proofreaders should focus on different dimensions of the question paper: for example, the Chief Examiner to concentrate on professional matters (such as orientation, coverage and standard); and the M-AD on accuracy and wording (i.e. spotting error and ambiguity).

18. **Inadequate Documentation of Key Records.** All the amendments had been made by the M-ADs on soft copy with no official record being kept. Proper documentation is important for tracing and checking the process of question development.

19. **Complacency about Errors.** Two of the cases related to mistakes from a lack of care on the part of the personnel involved in the question development process. From our interviews with them, we note that some consider careless mistakes unavoidable. Given the importance of the examinations, their far-reaching effect on the future of candidates and implications for HKEAA's credibility, such complacent and defeatist attitude is totally unacceptable.

20. Such carelessness could well have been bred by reliance on the "safety net" of revising marking schemes to accommodate errors or imperfections in the questions. Maintaining flexibility in the marking scheme is meant to allow any unusual but equally valid answers to be duly recognised, not to camouflage errors.

21. **Reluctance to Acknowledge and Failure to Rectify Errors.** We are disappointed that in one of the cases, HKEAA did not rectify an ambiguous question in the ERQP, thus continuing to mislead teachers and students.

22. The complacency about errors in question papers and reluctance to rectify them in the ERQP suggest problems of mindset among some staff members. We consider more external feedback and monitoring useful.

23. **Inadequate Guidelines for Handling Complaints.** We find that HKEAA's complaints handling guidelines give ambivalent advice on the handling of non-SC complaints, so that staff have to rely heavily on unwritten "workplace agreement".

24. Furthermore, the guidelines are detailed on procedures but vague on principles.

25. **Inadequate Remedial Measures.** HKEAA has been prompt in reviewing the 2008 examinations and in drawing up remedial measures. However, those measures have tended to be incident-specific and procedure-oriented, addressing the symptoms rather than the root causes of the problems. This could be one of the reasons why errors have continued to recur despite HKEAA's elaborate procedures for checking and proofreading. We believe that the Council should take a broader and incisive view of matters, to identify the basis of the problems.

Recommendations

26. Against this background, The Ombudsman recommends that HKEAA:

Roles and Responsibilities

(a) firmly impress upon all personnel the importance of HKEAA as an authority for public examinations with far-reaching and long-range impact on our community;

(b) clearly spell out the role and responsibilities of the M-AD in manuals, guidelines and records on question development and through staff training;

(c) re-examine the guidelines on conflicting roles for effective safeguards and quality assurance; and when applying the guidelines, focus on the spirit and intent rather than simply follow the procedures;

Checking and Proofreading

(d) review the number of tiers for checking and proofreading and instil in the personnel concerned a sense of their importance and a pride in their role;

(e) as far as practicable, introduce disincentives or even penalty for mistakes and negligence;

(f) review the checking and proofreading guidelines and checklists to prune details to essentials and highlight principles;

(g) specify in the proofreading checklists the different dimensions that the different proofreaders should focus on, while reminding them not to lose sight of the question paper as a whole;

Record-keeping

(h) ensure that key records, including amendments made by M-ADs, are kept;

Revision of Marking Schemes

(i) in case of errors requiring significant revision of the marking scheme, go through the facts carefully to identify the root cause(s) of the errors, the personnel involved and any room for improvement, with a report to the HKEAA Council to account for the incident;

ERQP

(j) for questions with errors, rectify them before posting on ERQPs;

External Feedback

(k) try to generate more external feedback, e.g. by forming stakeholders' liaison groups;

Handling of Complaints

(l) in revising guidelines on handling of complaints, focus on the principles and key issues in the decision-making process; and

Future Review

(m) have its systems, procedures and staff mindset further reviewed by the Council from a broader perspective and in greater depth.

Office of The Ombudsman
May 2009

1

INTRODUCTION

BACKGROUND

1.1 The Hong Kong Examinations and Assessment Authority ("HKEAA") conducts various public examinations. Among them, the Hong Kong Certificate of Education Examination ("HKCEE") and the Hong Kong Advanced Level Examination ("HKALE") have far-reaching implications on the future of young people in Hong Kong and our reputation for education/examinations elsewhere. Their results are recognised by educational institutions, local and overseas, as a valid and reliable assessment of aptitude for higher education and by employers for staff recruitment. Every year, the local media would interview candidates with straight As on their aspirations while public figures, sometimes even the Chief Executive, soothe those who have not done so well.

1.2 Society, therefore, has legitimate expectations that the question papers of HKCEE and HKALE are maintained at the highest standard. Any flaw – even one, in the content or wording – would risk compromising the credibility and public confidence in the examination system.

1.3 In May 2001, we noted a spate of errors in the two examinations and initiated a direct investigation, which we completed in March 2002. A number of our recommendations on the development of question papers were subsequently implemented by HKEAA.

1.4 In 2008, we received numerous complaints about errors in some papers for HKCEE and HKALE. We found inappropriate and inaccurate instructions to candidates in some question papers. Our findings suggested that despite the implementation of the recommendations of our previous direct investigation, there

might still be systemic problems in the development of question papers.

1.5 In June 2008, pursuant to section 7(1)(a)(ii) of The Ombudsman Ordinance, Cap. 397, The Ombudsman initiated a follow-up direct investigation into HKEAA's mechanism for developing question papers, with a view to identifying further room for improvement.

METHODOLOGY

1.6 We have studied relevant papers, statistics and files of HKEAA. Members of the public were invited to give comments and suggestions between 26 June 2008 and 25 July 2008. Interviews with some of the personnel involved in question paper development were conducted from 13 to 26 November 2008.

REPORT

1.7 The draft investigation report was sent to HKEAA for comments on 23 April 2009. A meeting to discuss the draft report was held on 11 May. This final report, incorporating HKEAA's comments, was issued on 27 May 2009.

2

ORGANISATION OF HKEAA

2.1 HKEAA is a statutory body established in 1977 under the Hong Kong Examinations and Assessment Authority Ordinance, Cap. 261. Its primary responsibility is the administration of HKCEE and HKALE, although it also conducts other examinations such as the Test of English as a Foreign Language.

2.2 The Authority is governed by a Council with the Secretariat running the day-to-day operations.

HKEAA COUNCIL

2.3 The Council comprises six *ex officio* members and 11 members appointed by the Chief Executive, including the Chairman. They come from schools, tertiary institutions, the Curriculum Development Council, the Vocational Training Council, the Education Bureau and other fields, including law, commerce and industry.

HKEAA SECRETARIAT

2.4 The Secretariat, led by the Secretary General, has a full-time staff of about 380, with support from roughly 8,000 part-time service providers on contract. Mainly experienced teachers and lecturers, the part-time service providers serve different roles in conducting examinations, including the following:

- Chief Examiner: to be in charge of the production of a question paper, with focus on its orientation, coverage and standard.

- Moderator: to assist the Chief Examiner in checking and moderating the question paper, particularly its orientation, coverage and standard.

- Setter: to prepare the draft question paper.

- Assessor: to work through the question paper to ensure that the questions are workable and free of errors.

- Proofreader: to proofread the question paper.

- Assistant Examiner: to assist and support the Chief Examiner during the marking process.

- Marker: to assess candidates' answers and assign marks to them.

COMMITTEES

2.5 There are various committees under the Council and the Secretariat with different functions. Relevant to our investigation are the **Moderation Committees** and the **Subject Committees.**

2.6 The Moderation Committees are task-specific for setting and moderating question papers. Each committee is normally made up of:

- a Chief Examiner, a part-time service provider, as chairman;
- a Manager-Assessment Development ("M-AD"), the only full-time officer on the committee, as secretary;
- the Setter of questions; and
- two Moderators.

2.7 The Subject Committees are standing committees under the Public Examinations Board of the Council for advising the Council on the syllabi of public examinations and matters concerning the conduct of the examinations. Each

Committee is chaired by a non-staff subject expert. It conducts post-examination reviews every year. Its membership comprises teachers, subject experts from the tertiary sector and representatives from the Education Bureau.

3

PROCEDURES AND PRACTICES

3.1 This chapter sets out HKEAA's procedures and practices on:

- development of question papers;
- development of marking schemes;
- review of examinations; and
- handling of complaints.

DEVELOPMENT OF QUESTION PAPERS

Principles

3.2 Question papers are developed according to the following principles:

(a) The paper reflects the aims and objectives of the examination syllabus.

(b) The questions adequately cover, and are within the limits of, the syllabus.

(c) The questions provide a fair test for the average candidate as well as room for stretching those more able.

(d) The questions contain no ambiguity, are easily understandable, precise and definite.

(e) Where a choice of questions is allowed, the questions are set at a comparable level of difficulty.

(f) Where the paper is bilingual, the two versions are identical in meaning.

Stage One: Setting and moderation of questions

3.3 Question papers are developed in stages. Stage One is to ensure that the questions meet the objectives of the syllabus, particularly in terms of focus, coverage and level of difficulty, and comprises the following steps:

(a) the Moderation Committee to determine the orientation, emphasis and distribution of questions;

(b) the Setter to draft the questions; and

(c) the Moderation Committee to finalise the draft question paper.

Stage Two: Checking and proofreading of draft question papers

3.4 Stage Two is to ensure appropriateness of the questions and instructions, particularly in terms of accuracy and clarity:

(a) Checking of draft question paper

(i) Language officers to polish the language (applicable to non-language papers only)

(ii) Assessor 1 to work through the questions (mainly applicable to multiple choice questions and those requiring computation)

(iii) Assessor 2 to work through the questions (mainly applicable to multiple choice questions and those requiring computation)

A camera-ready copy is then prepared for proofreading.

(b) Proofreading of camera-ready copy (five rounds of proofreading):

(i) Proofreading by Proofreader 1
(ii) Proofreading by Buddy Proofreader, usually a full-time officer responsible for another subject
(iii) Proofreading by Proofreader 2
(iv) and (v) Proofreading by both the M-AD and the Chief Examiner

Film plates are then prepared for proofreading.

(c) Proofreading of film plates (one round of proofreading)

(i) Proofreading by either the M-AD or the Chief Examiner

The questions are then printed on paper for proofreading.

(d) Proofreading of printed question paper (three rounds of proofreading)

(i) Proofreading by Proofreader 3
(ii) and (iii) Proofreading by both the M-AD and the Chief Examiner

3.5 To prevent conflict of roles, HKEAA has laid down the following guidelines:

- Setters should not be Moderators.
- Assessors should not be members of the Moderation Committee.
- Proofreaders should preferably be drawn from outside the Moderation Committee.

The rationale behind these guidelines is that it would be difficult for officers already familiar with the question paper to be objective in assessing, checking or proofreading it.

3.6 While the Chief Examiner and the M-AD stand out as the two parties in charge of the development of question papers, it is not clear from HKEAA manuals and guidelines which party bears the final responsibility. In response to our inquiry, HKEAA provided the following information on the roles of the Chief Examiner and the M-AD:

- The Chief Examiner is in charge of the production of the question paper and plays a key role in leading the Moderation Committee and advising on professional matters.

- The M-AD takes full responsibility for ensuring that the printed question paper is free of errors and complies with the decision of the Moderation Committee. Every M-AD is issued with a document on his/her role.

DEVELOPMENT OF MARKING SCHEMES

3.7 The marking schemes guide Markers on how marks should be awarded, taking into consideration the question requirements and the range of acceptable answers. The marking scheme is not a prescriptive answer sheet. Modern education theories and worldwide trend advocate accommodation of diversity. "Positive marking" is encouraged: Markers are to give credit to what is in the candidate's answer rather than adhering to a prescribed response.

3.8 Developing a marking scheme comprises three steps:

(a) A **draft marking scheme** is prepared by the Moderation Committee in conjunction with the draft question paper at the stage of moderation.

(b) After the examination, the Examiners mark some **sample scripts** and then agree on marking principles and standards, revising the draft marking scheme where appropriate.

(c) The **revised marking scheme** is distributed to all Markers at a Markers' Meeting, and may be **further revised** on the basis of discussions. All amendments to the distributed copy of the

marking scheme will be conveyed to Markers either at the Markers' Meeting, or subsequently by telephone/email.

REVIEW OF EXAMINATIONS

3.9 Every year after HKCEE and HKALE, Subject Committees will meet during August to October to review the examination papers, the marking process and candidates' performance.

3.10 Recommendations of the Subject Committees which concern policy matters are submitted to the Public Examinations Board under the Council for decision. Non-policy recommendations are submitted to the Public Examinations Management Team, an internal committee chaired by the Deputy Secretary General, for decision.

3.11 At the end of the review process, for each of the HKCEE and HKALE papers, an Examination Report and Question Papers ("ERQP") is published for sale around November. The purpose of ERQP is to provide information to assist teachers in their teaching and students in their learning. ERQP covers:

- the objectives, format and contents of the examination;
- the question paper and marking scheme; and
- the Chief Examiner's comments on candidates' performance in general.

HANDLING OF COMPLAINTS

3.12 Complaints can be made to HKEAA via examination centres, by hand, post, fax, email or via the Examination Irregularities Management System on HKEAA website. Complaints made online via email or the Examination Irregularities Management System are received by the Public Examinations Information Centre ("PEI Centre").

3.13 HKEAA's internal guidelines on complaint handling provide that "**all** examination-related complaints are dealt with by the Standing Committee ("SC")" (section A2 of guidelines on "School Examinations and Assessment Division: Procedures for Handling Complaints). SC is an internal meeting chaired by the Secretary General or his deputy.

3.14 However, section B6 of the same guidelines reads:

> "For cases requiring the attention/consideration of the management **(not SC cases)**, O-EAs to pass the letters/reports to GM-SEA/SM-EAs for follow-up actions. Alert M-EAs for screening."[1]

This implies that there are complaints not dealt with by SC, in contradiction to section A2 of the guidelines.

3.15 In response to our query about the meaning of the two sections, HKEAA advised that the handling of non-SC cases is based on "workplace agreement", i.e. instead of having clearly written guidelines, there is an informal understanding among officers on how to handle such complaints. Under the "workplace agreement", frontline officers in the School Examinations and Assessment Division ("SEAD") would refer such cases to Manager/SEAD for screening; the latter would seek the agreement of General Manager/SEAD or Senior Manager/SEAD to classify the cases as non-SC. Depending on the nature of the complaint, they are referred to appropriate divisions for investigation. Replies to non-SC complaints are normally authorised by Manager/SEAD.

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[1] *O-EA: Officer-Examination Administration; GM-SEA/SM-EA: General Manager-School Examinations and Assessment/Senior Manager-Examination Administration; M-EA: Manager-Examination Administration.*

4

CASE STUDIES

ERRORS IN 2008

4.1 We noted three errors in the HKCEE and HKALE question papers of 2008. Two are classified by HKEAA as Category 1, as they may affect candidates' performance and require remedial action such as adjustment of marking scheme. These errors are related in Cases 1 and 2 below. The third error shown in Case 3 is classified by HKEAA as Category 2, as not affecting the work of candidates.

Case 1: HKALE Use of English Paper Section A Question 6

Our Investigation on complaints in June 2008

4.2 In a listening test, candidates were asked to listen to a taped conversation and then answer questions. In the tape, the host of a television show explained to players the rules of a game about survival on a deserted island, including items they were allowed to take to the island and other items not. The instruction for one of the questions was as follows:

- **"What the players are allowed to have: Put ticks or crosses."**

4.3 Although it was odd for an examination authority to ask candidates to use two different symbols to indicate the same thing, the literal meaning of this instruction could only be:

- to put **either** ticks **or** crosses against the items allowed.

4.4 However, HKEAA's intended meaning as set out in its original marking scheme was:

- to put ticks against items allowed **and** crosses against items not allowed.

4.5 After the examination in April 2008, HKEAA received a large number of enquiries and complaints on the meaning of the instruction. Having marked sample scripts, HKEAA decided to revise the marking scheme to accept both interpretations.

4.6 Concurrently, this Office received some 90 complaints about this case. After investigation, we concluded that HKEAA had failed in its duty to provide candidates with appropriate and accurate task instructions. Furthermore, our findings suggested that despite HKEAA's fairly elaborate checking and proofreading mechanism for question papers, the system had failed to identify a simple, and obvious, error. Accordingly, The Ombudsman initiated this direct investigation to probe deeper into HKEAA's mechanism of developing question papers.

Our Direct Investigation

4.7 Our direct investigation has revealed that the ambiguous instruction had arisen from an amendment made by the M-AD concerned[2] during the proofreading stage of question development just before the preparation of film plates for printing the paper.

4.8 The amendment involved the following change:

- from a previous version of the instruction:

  "What the players are allowed to have: Put ticks and crosses as appropriate"

- to:

  "What the players are allowed to have: Put ticks or crosses"

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[2] *He was a Senior M-AD by rank.*

4.9 The amendment was made on soft copy and no official record was kept. At an interview by our investigation staff, M-AD indicated that he could not see much difference between the two versions above, given the conventional use of ticks to represent "yes" or "correct" and crosses to represent "no" or "incorrect" in the educational context. As far as he could recall, in making the amendment, he was trying to save one line and keep the task within one page. He did not notify the Chief Examiner of the amendment because he considered this a minor editing matter.

4.10 In this case, the M-AD was also the Setter of the question. This was not a usual practice although, strictly speaking, it was not prohibited under HKEAA guidelines on avoiding conflicting roles (**para. 3.5**).

4.11 HKEAA records showed that after the amendment was made, the printed question paper was proofread by the Chief Examiner and Proofreader 3. No question was raised about the instruction. At interviews with our staff, the proofreading personnel mentioned the conventional use of ticks and crosses in the educational context as a possible reason for not having noticed the ambiguity.

4.12 When we conducted our investigation on the complaints in mid-2008, HKEAA agreed that the instruction was ambiguous and attributed this to an error in judgment. In view of the ambiguity of the instruction, HKEAA had revised its marking scheme to accommodate the two interpretations.

4.13 However, we subsequently found that in the ERQP published in late 2008, HKEAA had merely shown the instruction and the marking scheme in their original form, although a brief account of the ambiguous instruction and revision of the marking scheme was given in a separate section on Candidates' Performance. It did not rectify the error.

Issues Revealed

4.14 This case has revealed the following deficiencies:

- The judgment of the officers concerned had been clouded by their preoccupation with the conventional use of ticks and crosses in the educational context.

- Being responsible for editing and proofreading the paper, the M-AD should not have taken on the dual role of Setter.

- Notwithstanding the numerous enquiries and complaints on the meaning of the instruction and the revision of its marking scheme to accommodate the two different interpretations in mid 2008, HKEAA did not fully acknowledge its error. It did not rectify the ambiguous instruction when it issued the ERQP in late 2008.

- By maintaining the ambiguous instruction in the ERQP, HKEAA compounded its earlier error and failed to provide a proper examination question for teachers' and students' reference.

Case 2: HKALE Physics Paper Question 5(b)(ii)

The Complaint

4.15 In a Physics question, candidates were asked to "calculate the value of θ and T", where "T" was not defined at all.

4.16 Immediately after the examination on 24 April 2008, a candidate ("the Complainant") filed an online enquiry via HKEAA's Examination Irregularities Management System, claiming that "T" could be interpreted either as "tension" or as "period" and requesting HKEAA to investigate and revise its marking scheme to give credit to all reasonable answers. It was indicated on the Examination Irregularities Management System that replies would normally be issued within seven working days.

4.17 After chasing HKEAA twice by telephone, the Complainant received a reply by email on 26 June 2008 that it would be acceptable for candidates to calculate either "tension" or "period".

4.18 On 28 June 2008, the Complainant complained to this Office that:

- The Physics question was not clear; and
- HKEAA's reply to him was late, simplistic and inadequate.

Our Findings on the "Unclear" Question

4.19 Our investigation has revealed that the definition of "T" as "tension" had been deleted by the M-AD from an earlier version of the paper when making changes to the substance of the question during the moderation stage. The amendment was made on soft copy and no official record was kept.

4.20 After the amendment, the draft question paper went through two Assessors and eight rounds of proofreading. However, the error went unnoticed.

4.21 After the examination on 24 April 2008, HKEAA received eight enquiries about the question. The omission of a definition for "T" had in effect produced a new question not originally intended. Fortunately, the level of difficulty of the two questions happened to be similar. Hence, HKEAA decided to revise the marking scheme to accommodate answers based on both interpretations of "T".

4.22 In the ERQP published in late 2008, the question was amended to define "T" as "tension" and the ambiguity was removed.

Our Findings on the "Late and Inadequate" Reply

4.23 The Complainant's enquiry was received by PEI Centre of HKEAA via its Examination Irregularities Management System on 24 April 2008. Immediately a computer-generated acknowledgement was sent to the Complainant, informing him that a reply would be issued before the release of examination results.

4.24 PEI Centre referred the case to two parties: SEAD and the Assessment Development Division ("ADD") for input. On 29 April 2008, ADD prepared a draft reply and put it on the Examination Irregularities Management System. However, SEAD took no action until late June when final checking of outstanding cases showed up that of the Complainant's. On 26 June 2008, four days before the release of examination results, SEAD authorised and PEI Centre issued the reply.

4.25 In response to our inquiry, HKEAA apologised for the delay in replying to the Complainant and undertook to review its procedures and guidelines.

4.26 While the delay was clearly due to SEAD's oversight, it is not possible for us to judge with certainty whether or not SEAD had followed procedures and

guidelines, as HKEAA guidelines on complaint handling are self-contradictory and vague. Moreover, there is heavy reliance on unwritten "workplace agreement" (**paras. 3.13 to 3.15**).

4.27 On the adequacy of the response, while the reply had answered the Complainant's query, it would certainly have been more helpful if HKEAA had given a fuller reply admitting the deficiency in its question and explaining the revision of its marking scheme, especially as the reply was issued two months after the Complainant's enquiry. This might have allayed the Complainant's concern somewhat.

Issues Revealed

4.28 This case has revealed the following deficiencies:

- The M-AD failed to exercise due care and diligence in editing the question.
- The proofreading process, despite eight times over, had failed to reveal the omission.
- The "workplace agreement" in handling complaints could be unreliable.

Case 3: HKCEE English Language Paper 1A

The Incident

4.29 In a comprehension test, candidates were asked to read a number of web postings and then answer questions. In a web posting dated 25 March 2008, the writer referred to views expressed in another posting dated 22 April 2008, a date in **the future**.

4.30 The examination took place on 2 May 2008. Immediately afterwards, HKEAA issued clarification that the date of the posting "25 March 2008" should read "25 April 2008" instead, apologised for its error and indicated that it would review and improve its proofreading procedures.

4.31 In the ERQP issued in late 2008, the error in the date was rectified.

Our Findings

4.32 The error had been made by the M-AD during the question setting stage. The question paper subsequently went through two Assessors and nine rounds of proofreading, but the error was not noticed. HKEAA explained that the focus of the personnel involved was on coherence of text and appropriateness of the question. In future it would provide a more specific proofreading checklist.

Issues Revealed

4.33 This case has revealed the following deficiencies:

- The M-AD had failed to exercise due care and diligence in editing the question.
- The proofreading process was not effective.

General Observations

4.34 HKEAA has elaborate and multi-tiered procedures in place for checking and proofreading question papers and handling complaints. However, as revealed in the case studies above, the procedures as well as the "workplace agreement" do not adequately serve the purposes intended. Meanwhile, some of the key personnel had failed to check the papers from the candidate's angle or use their common sense in the process. It would appear that HKEAA's vetting and monitoring mechanism has, at times, become a formality amounting to ineffective use of resources.

5

HKEAA REMEDIAL MEASURES

5.1 The Subject Committees met in August/September 2008 and the Public Examinations Management Team in late October 2008 to review the administration of the 2008 HKCEE and HKALE and to consider improvement for the future. Measures relevant to this investigation are set out below.

MODERATION, CHECKING AND PROOFREADING PROCESS

5.2 Guidelines and checklists will be updated to remind personnel of the need to include definition of symbols and to ensure clarity of instructions.

5.3 M-ADs will be reminded:

- to consult Chief Examiner before making significant changes;
- to follow the established practice of using the same checklist throughout the proofreading process; and
- to copy the marking scheme to all proofreaders.

5.4 Language papers will be proofread by non-language managers to ensure clarity of instructions.

5.5 Assessors will be provided with a standard checklist.

MONITORING OF PERFORMANCE

5.6 Forms will be re-designed to facilitate better record-keeping of the performance of examination personnel, to ensure that only those who perform well will be re-appointed.

HANDLING OF COMPLAINTS

5.7 The Examination Irregularities Management System will be enhanced to capture and centralise data. In particular, progress on individual cases will be updated and email alerts issued to remind personnel of timely completion of action.

5.8 The guidelines on handling complaints will be reviewed and revised, particularly to define SC and non-SC cases and to set out clearly the handling of non-SC cases instead of relying on "workplace agreement".

6

OUR OBSERVATIONS AND OPINIONS

6.1 HKEAA's mission is "to meet the educational needs of society by providing reliable, equitable and high quality examinations and assessment services in a professional, efficient and innovative manner". Under the leadership of the Chairman, HKEAA has in recent years commendably devoted considerable time and efforts to instilling in staff a culture of receptiveness, transparency and continuous improvement. However, these cases signify the existence still of serious deficiencies in some processes and the need for improvement.

6.2 All the errors in the 2008 question papers we examined are in the wording of the questions, as summarised below:

Error	Issues	Consequences
1. Ticks or crosses	• Judgment clouded by preoccupation with "conventional use" of ticks and crosses in educational context. • Conflicting roles of personnel. • Expedient revision of marking scheme to accommodate all	• Ambiguity in question led candidates to different interpretations. • Maintaining the ambiguous question in ERQP compounded the earlier error and gave inappropriate guidance to teachers and students for future learning.

	interpretations. • Though classified as a Category 1 error, HKEAA failed to identify the crux of the problem or to rectify error.	
2. No definition for "T"	• Lack of due care and diligence in editing. • Ineffective checking and proofreading. • Inadequacy of guidelines on complaint handling and unreliability of "workplace agreement".	• Absence of definition left question open to interpretation and candidates unsure of intention. • It was a fortunate coincidence that the two questions based on the two interpretations of "T" were of a similar level of difficulty and the omission could be readily rectified by amending the marking scheme. Had the two interpretations of "T" resulted in different levels of difficulty, the consequences could have been quite serious.
3. Anachronism	• Lack of care in editing. • Ineffective checking and proofreading.	• Although not a crucial piece of information, the wrong date might have confused candidates and wasted some of their time in pondering over the mismatch. • A Category 2 error, it still raises questions on the effectiveness of the proofreading process.

6.3 An analysis of the errors has highlighted problems of ineffective procedures and deficient practices. It also raises questions on the mindset of some members of HKEAA. These deficiencies include:

- key responsibilities not clearly defined;
- conflicting roles of key personnel;
- ineffective proofreading process;
- inadequate documentation of key records;
- complacency about errors;
- reluctance to acknowledge, and failure to rectify, errors;
- inadequacy of guidelines on handling complaints; and
- inadequate remedial measures.

KEY RESPONSIBILITIES NOT CLEARLY DEFINED

6.4 The errors in the 2008 question papers we examined had all resulted from amendments made by the respective M-AD, which went unnoticed despite repeated subsequent checking and proofreading. It is not clear from HKEAA manuals and guidelines who should bear ultimate responsibility for errors of this nature. In response to our inquiry, HKEAA clarified that "the M-AD takes full responsibility in ensuring that the printed question paper is free of errors and ambiguities" **(para. 3.6)**.

6.5 This underlines the key role of the M-AD. However, this is not clearly stated in any of the manuals, guidelines and working documents put to us. For example:

- The "Manual for M-ADs – Development of Question Papers" provides that the printed question paper should be proofread by Proofreader 3, the M-AD and the Chief Examiner. The manual is silent on which party is ultimately responsible for the final printed question paper.

- The document on "Procedures and Guidelines on Proofreading of Question Papers" provides that the printed question paper should be proofread by Proofreader 3 and the Chief Examiner. The guidelines are similarly silent on which party should be ultimately responsible for the final printed question paper. The M-AD's responsibility for proofreading the printed question paper is not even mentioned.

- The record forms which keep track of every stage of checking and proofreading make no mention of any proofreading by the M-AD.

6.6 It is questionable if all M-ADs are aware of their "responsibility". From our interviews with the examination personnel, we note that not all of them are clear about this important responsibility of the M-AD.

6.7 We consider that HKEAA should review its manuals, guidelines and records to define the precise role and responsibilities of the M-AD and brief all personnel concerned to ensure their proper understanding.

CONFLICTING ROLES OF KEY PERSONNEL

6.8 For moderating and proofreading questions, a fresh mind and fresh eyes are important for the objectivity necessary to pick out irregularities. In this connection, HKEAA has guidelines on avoidance of conflicting roles of the personnel involved in question development (**para. 3.5**). However, principle and practice evidently are at variance.

6.9 In Case 1 (ticks or crosses), the M-AD responsible for moderating and proofreading the question paper was allowed to set the question as well. While this might not be against the letter of HKEAA's guidelines, it was most certainly against their spirit and intent. In the event, the M-AD-cum-Setter failed to notice the ambiguity in the instruction for candidates. Worse still, he was instrumental in removing the version that would have made the intended question clearer (**paras. 4.7-4.8**).

6.10 We consider it necessary for HKEAA to review the guidelines on conflicting roles for effective safeguards and quality assurance. More importantly, in applying the guidelines in future, HKEAA should focus on the spirit and intent rather than details of procedures.

INEFFECTIVE PROOFREADING PROCESS

6.11 HKEAA has elaborate procedures and guidelines for checking and proofreading. As a general rule, each paper goes through two Assessors and is proofread nine times over. Detailed guidelines and checklists are to be followed by the personnel concerned. To maintain objectivity, Assessors must be fresh eyes.

6.12 However, as shown in the cases studied, even such an elaborate process had time and again failed to identify quite obvious errors.

6.13 We question the need for so many rounds of proofreading. This multiple process might lull the proofreaders into a false sense of security and even encourage reliance on the proofreader next in line. HKEAA should consider removing or merging some of the many tiers to simplify and streamline procedures for efficient, effective and properly accountable proofreading. Particularly, it is crucial to impress upon each proofreader the importance of their function. We note that it is already HKEAA's practice not to re-appoint service providers who under-perform. Forms have recently been re-designed to facilitate monitoring of performance of staff and part-time service providers. For its own staff, there should be a system of disincentive or even penalty for mistakes and negligence. A multi-tier process without disincentive for mistakes reduces vigilance and induces reliance on others.

6.14 Moreover, whilst details and principles are equally important, HKEAA guidelines and checklists contain much on minutiae, e.g. whether the correct page numbers have been inserted and whether the layout fits the A4/A5 frame, but relatively little on principles, e.g. whether the draft instructions are clear and whether the draft questions are at the right level. HKEAA should review the guidelines and checklists, to prune details to essentials and highlight the principles.

6.15 For more efficient and effective staff deployment, proofreading should be kept to the minimum necessary. Moreover, different proofreaders should focus on different dimensions of the question paper: for example, the Chief Examiner to concentrate on professional matters (such as orientation, coverage and standard); and the M-AD on accuracy and wording (i.e. spotting error and ambiguity). While reminding proofreaders not to lose sight of the question paper as a whole, HKEAA should specify in its checklists the different focuses.

INADEQUATE DOCUMENTATION OF KEY RECORDS

6.16 All the errors shown in our case studies had come from amendments made by the M-ADs on soft copy. The documents put to us showed that amendments made by all other proofreading personnel had been kept for official record, but significantly not those made by M-ADs.

6.17 HKEAA should review its documentation and record-keeping to ensure that key records including M-ADs' amendments are kept, especially as M-ADs have ultimate responsibility for the accuracy and clarity of the final questions. Requiring the M-AD to document his amendments would enhance his awareness of the need to exercise due care in his discharge of duties.

COMPLACENCY ABOUT ERRORS

6.18 Case 2 (no definition for "T") and Case 3 (anachronism) are typically careless mistakes reflecting a lack of care on the part of the personnel involved. From our interviews with them, we note that some consider careless mistakes unavoidable. Given the importance of the examinations, their far-reaching effect on the future of candidates and implications for HKEAA's credibility, such complacent and defeatist attitude among some in the examination personnel is totally unacceptable.

6.19 Carelessness could well have been bred by reliance on the "safety net" of revising marking schemes to accommodate errors or imperfections in the questions.

6.20 The flexible revision of marking schemes is to encourage positive marking and to give the benefit of the doubt to candidates' answers rather than dictate the answers (**para. 3.7**). It also avoids penalising candidates unfairly for errors or ambiguities in the questions. However, when marking schemes can be easily revised to minimise the consequences of or even to camouflage errors, such errors are more likely to be treated lightly, and proper care and diligence in question paper development less likely to be exercised. In Case 1 (ticks or crosses), the effect of revision of the marking scheme allowed different candidates to give different answers to a quite specific question: an unusual situation, to say the least. Revision of the marking scheme such as that in Case 2 (no definition for "T") means that different

candidates have been allowed, unintentionally, to answer different questions. This carries a risk of inequity and should be avoided.

6.21 Maintaining flexibility in the marking scheme is meant to allow any unusual but equally valid answers to be duly recognized, not to camouflage errors. To strengthen control and monitoring, HKEAA should, in cases where the marking scheme is revised significantly to accommodate an error, examine the facts carefully to identify the root cause(s) of the error, the personnel involved and any room for improvement. This is not to "name and shame" but to forestall recurrence of such errors. A report should also be made to its Council to account for the incident.

RELUCTANCE TO ACKNOWLEDGE AND FAILURE TO RECTIFY ERRORS

6.22 HKEAA attributed the ambiguous instruction in Case 1 (ticks or crosses) to an error in judgment. We are, therefore, disappointed that HKEAA maintained the ambiguous instruction in its ERQP published in late 2008, together with the original marking scheme, which allowed for **only one** interpretation of the instruction – HKEAA's original interpretation. The instruction was erroneous and should be rectified in ERQP. Failing to do so, HKEAA had compounded its earlier error: encouraging teachers and students to ignore instructions and to adhere blindly to convention.

6.23 We note that HKEAA has taken pains to instill in staff a culture of receptiveness, transparency and continuous improvement **(para. 6.1)**. We are concerned that the complacency about errors in question papers and reluctance to rectify them in the ERQP suggest that there are still problems of mindset among some staff members. We consider more external feedback and monitoring useful. At present, the HKEAA Council comprises mainly representatives from the education field with some professionals from other sectors **(para. 2.3)**. HKEAA should try to obtain more external feedback, including that from other fields, perhaps by forming liaison groups of different stakeholders.

INADEQUACY OF GUIDELINES FOR HANDLING COMPLAINTS

6.24 Our analysis of HKEAA guidelines on handling complaints in connection with Case 2 (no definition for "T") has revealed the following shortcomings:

- The guidelines give ambivalent advice to staff on the handling of non-SC complaints, so that they have to rely heavily on informal "workplace agreement".

- The guidelines are detailed with procedures but vague on principles. For example, they contain such minute instructions as affixing a date chop and assigning a reference number to each complaint report, but are silent on such key issues as:

  (a) who should classify complaints into SC and non-SC; and

  (b) who authorises replies to non-SC complaints.

6.25 Case 2 (no definition for "T") is clear evidence of the inadequacy of the guidelines and unreliability of the "workplace agreement".

6.26 We note HKEAA's intention to improve and review its guidelines **(para. 5.8)**. To this end, the focus should be on principles and key issues in the decision-making process rather than just minutiae of every step of the action. The revised guidelines can be in two parts: one on key principles and the other on detailed action.

INADEQUATE REMEDIAL MEASURES

6.27 As mentioned in Chapter 5, subsequent to our investigation of complaints, HKEAA has been prompt in reviewing the administration and conduct of the 2008 examinations and in drawing up remedial measures to address some of the shortcomings revealed.

6.28 While the proposed measures are expected to bring improvement, they have tended to be incident-specific and procedure-oriented, addressing the symptoms rather than the root causes of the problems. This could be one of the reasons why errors have continued to surface despite HKEAA's elaborate procedures for checking and proofreading. We believe that the Council should take a broader and incisive view of matters, to identify the bases of the problems.

7

CONCLUSION AND RECOMMENDATIONS

7.1 Accuracy and clarity of question papers are essential to the effectiveness of public examinations and the credibility of the examination system itself. For important public examinations such as HKCEE and HKALE, one error is one too many.

7.2 Committed to maintaining a high standard of performance, HKEAA has been striving to develop a culture of continuous improvement. The Authority has also been diligent in devising procedures and guidelines for the development of question papers and conduct of annual reviews. However, the errors in the 2008 examinations indicate room for further improvement in HKEAA's procedures and guidelines as well as the mindset among some of its staff.

7.3 Against this background, The Ombudsman has devised measures for HKEAA's consideration. We have endeavoured to time these recommendations to facilitate their implementation for improvement in the following examination cycle. Accordingly, The Ombudsman recommends that HKEAA:

Roles and Responsibilities

(a) firmly impress upon all personnel the importance of HKEAA as an authority for public examinations with far-reaching and long-range impact on our community (**para. 1.1**);

(b) clearly spell out the role and responsibilities of the M-AD in

manuals, guidelines and records on question development and through staff training (**paras. 6.5-6.7**);

(c) re-examine the guidelines on conflicting roles for effective safeguards and quality assurance; and when applying the guidelines, focus on the spirit and intent rather than simply follow the procedures (**paras. 6.9-6.10**);

Checking and Proofreading

(d) review the number of tiers for checking and proofreading and instil in the personnel concerned a sense of their importance and a pride in their role (**para. 6.13**);

(e) as far as practicable, introduce disincentives or even penalty for mistakes and negligence (**para. 6.13**);

(f) review the checking and proofreading guidelines and checklists to prune details to essentials and highlight principles (**para. 6.14**);

(g) specify in the proofreading checklists the different dimensions that the different proofreaders should focus on, while reminding them not to lose sight of the question paper as a whole (**para. 6.15**);

Record-keeping

(h) ensure that key records, including amendments made by M-ADs, are kept (**paras. 6.16-6.17**);

Revision of Marking Schemes

(i) in case of errors requiring significant revision of the marking scheme, go through the facts carefully to identify the root cause(s) of the errors, the personnel involved and any room for improvement, with a report to the HKEAA Council to account for the incident (**para. 6.21**);

ERQP

(j) for questions with errors (including ambiguity, omission and anachronism), rectify them before posting on ERQPs (**para. 6.22**);

External Feedback

(k) try to generate more external feedback, e.g. by forming stakeholders' liaison groups (**para. 6.23**);

Handling of Complaints

(l) in revising guidelines on handling of complaints, focus on the principles and key issues in the decision-making process (**para. 6.26**); and

Future Review

(m) have its systems, procedures and staff mindset further reviewed by the Council from a broader perspective and in greater detail (**para. 6.28**).

7.4 The Ombudsman is pleased that HKEAA has accepted these recommendations and is already working on some of them. We appreciate the cooperation and understanding from the Chairman personally.

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